







# The 2nd Southeast Asia Economic Research and Development Workshop

15-16 August • Siem Reap, Cambodia

Hosted by the Paññāsāstra University of Cambodia, Siem Reap Campus (PUCSR), the Cambodia Development Resource Institute (CDRI), and the Institute for New Economic Thinking (INET) and its

Young Scholars Initiative (YSI)

The economic history of Southeast Asia unfolds as a tale of resilience, adaptation, and transformation. Over centuries, trade, migration, and cultural exchange have left enduring imprints on the region's economic landscape. From the mercantile empires of Srivijaya and Majapahit to the lasting legacies of European colonialism, Southeast Asia has been a crucible of economic experimentation and innovation. In the modern era, rapid industrialization, driven by export-oriented growth strategies and foreign investment, has reshaped the region. The emergence of the Asian Tigers – Singapore, Malaysia, Thailand, and Indonesia – as economic powerhouses in the last decades of the 20th century, alongside Vietnam's recent rise, underscore the diverse pathways to development, blending state intervention with market mechanisms.

However, Southeast Asia's economic journey has been marred by challenges. Persistent inequalities, environmental degradation, and political instability have posed significant obstacles to sustained growth and development.

Against this backdrop, understanding the historical evolution of economic thought in the region becomes paramount. Exploring the history of economic thought yields valuable insights into how economic theories and policies have been shaped by cultural, social, and political contexts. By delving into past economic ideas and experiences, decision-makers and academics can gain a deeper understanding of the region's development trajectory, informing contemporary economic policymaking and fostering inclusive, sustainable growth.

With this background in mind, we, on behalf of the Young Scholars Initiative (YSI), the Cambodia Development Resource Institute (CDRI), and Paññāsāstra University of Cambodia, Siem Reap Campus (PUCSR), extend a warm invitation to PhD scholars and early career researchers for a two-day workshop on economic research and development in Southeast Asia. We welcome submissions focusing on various aspects of the region's economic landscape, including but not limited to the following areas:

- History of economic thought
- Macroeconomics
- Energy and environment
- Agriculture and sustainability
- Governance and public policy
- International trade
- Labor economics and gender

The workshop aims to encourage debate and exploration of diverse perspectives on the history of economic thought in Southeast Asia and the corresponding economic policies. Our main goal is to facilitate a thorough comprehension of the role of economic thought in development, fostering international collaboration in academic research and knowledge exchange. Additionally, the workshop offers a platform for both young and senior economists to showcase their work, receive constructive feedback, and establish connections with colleagues investigating similar themes.

### **Organizing Committee**

Kosal Nith (Young Scholars Initiative)

Jenny Symaly (Cambodia Development Resource Institute)

Sattwick Dey Biswas (Young Scholars Initiative)

Sivly Houy (Cambodia Development Resource Institute)

Sereyroth Phang (Oxfam Cambodia)

Jakkrya Sey (Cambodia Development Resource Institute)

Sinoun Hin (Ministry of Post and Communication)

Sokhimmarya Chea (Royal University of Law and Economics)

Lyhong So (Cambodia Development Resource Institute)

Sreymeng Sros (Royal University of Law and Economics)

Sophara Phorn (Ministry of Economy and Finance)

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Arpan Ganguly (FLAME University)

Danilo Spinola (Birmingham City University)

Phanith Chou (Royal University of Phnom Penh)

Alejandro Márquez-Velázquez (Freie Universität Berlin)

Thirunaukarasu Subramaniam (Universiti Malaya)

Chandarany Ouch (The United Nations)

Chanrith Ngin (Cambodia Development Resource Institute)

Daniel Yonto (Xi'an Jiaotong-Liverpool University)

Sattwick Dey Biswas (Young Scholars Initiative)

Kirirom Cheav (National University of Management)

Raymond Leos (American University of Phnom Penh)

Sophat Phon (National Bank of Cambodia and Cambodia Econometric Association)

Kosal Nith (Young Scholars Initiative)

### **Practical Information**

#### **Conference Location**

The 2nd Southeast Asia Economic Research and Development Workshop will be held in the center of Siem Reap city, at the Paññāsāstra University of Cambodia, Siem Reap Campus (PUCSR).

View the location of PUCSR on Google Maps.

#### **Welcome Dinner**

The details regarding the welcome dinner will be made available soon. The dinner will be provided on the evening of Thursday, 15th August 2024. Dinner is free of charge for invited participants, mainly for speakers, presenters and organizers.

#### **Pre-Reading**

All of the papers that have been submitted for pre-reading will be available on <u>Google Drive</u> soon. These papers are for workshop delegate pre-reading purposes only, and if you would like to use or quote the contents of any article, you are explicitly required to contact the authors directly before doing so.

If you have submitted your paper and it does not appear in the list, please let us know as soon as possible and we will add it to the available papers.

We have tried to follow requests as closely as possible to have all papers under review or preliminary drafts excluded from the available reading material. If we have neglected such a request and your paper does appear in the list, please contact us as soon as possible so we can remove it.

### DAY 1 Thursday 15 August

08:30 - 09:00 • Registration

Siem Reap Hall

09:00 - 10:30 • Parallel I

**Session 1A: Political Economy** 

Siem Reap Hall

Chair: Alexandre Reichart, Renmin University of China

The Impact of Special Economic Zones on Urbanization Patterns in Cambodia

Daniel Yonto, Xi'an Jiaotong-Liverpool University

The SOE Landscape in Southeast Asia: Advantages, Challenges, and International Lessons

Jimi Rambo Arranchado, University of Canterbury

Smith and Ricardo in Dasgupta: Marginalist Underpinnings

Sai Chikoti, Azim Premji University

**Session 1B: Macroeconomic Policies** 

Preah Vihear Room

Chair: Sovannroeun Samreth, Saitama University

Macroeconomic Policy Space and Financing Green Structural Transformation in Southeast Asian Economies

Damon Aitken, SOAS University of London

**Dollarization and Exchange Rate Pass-Through in Cambodia** 

Chanthol Hay, National University of Battambang

US Dollar or KH Dollar? An Institutional and Infrastructural Analysis of the Cambodian Monetary Framework

Clément Berthou, Université Grenoble Alpes

10:30 - 10:45 • Break

10:45 - 11:00 • Welcoming Remark

Siem Reap Hall

**Dina Chhorn**, Director, Center for Development Economics and Trade, Cambodia Development Resource Institute

Samlei Chhoun, Director, Paññāsāstra University of Cambodia, Siem Reap Campus

11:00 – 11:15 • Introduction to the Young Scholars Initiative

Siem Reap Hall

Sattwick Dey Biswas, Coordinator, Young Scholars Initiative

#### 11:15 - 12:00 • Plenary Session

Siem Reap Hall

### The Birth of Chinese Economic Thought During the Spring and Autumn and Warring States Periods

Alexandre Reichart, Associate Professor of Economics, Renmin University of China

12:00 - 13:00 • Lunch

13:00 - 14:00 • Research Discussion I

Siem Reap Hall

14:00 - 16:00 • Parallel II

### **Session 2A: The Development of Education in Cambodia and the Role of Social Policy** Siem Reap Hall

Chair: Sathya Chea, Cambodia Development Resource Institute

### Perceptions of Capacity Development Support Among Sub-National Education Staff in Cambodia: Insights from NGO and Development Partner Initiatives

Chanmi Kim, Seoul National University

### Critical Success Factors in Cambodian Textbook Supply Chain: A Qualitative Take with Quantitative Flavor on Track and Trace (TnT) System

Phoury Bun, Cambodia Development Resource Institute

### Beyond Storage: An Exploration into Textbooks Management, Damage, and Loss in Cambodia Primary Schools

Phoury Bun and Lychoeng Na, Cambodia Development Resource Institute

## How Can Cambodia Enhance its Social Protection Policies for Vulnerable Populations by Adapting Strategies from South Korea, Particularly in Women's Empowerment and Digital Literacy?

SeYeon Kim, Seoul National University

### Session 2B: ASEAN Political Economy and Labor Market

Preah Vihear Room

Chair: Chandarany Ouch, The United Nations

### ASEAN as a Provider of Public Goods: An IPE Analysis of Security in the South China Sea Simon Welfonder, Lao Social Research and University Grenoble Alpes

#### **Estimating Migrant Population in Malaysia and Its Implications**

Emir Izat Abdul Rashid, Asia School of Business

#### Long-term Changes and Gender Gap in the Cambodian Labor Market over Time

Saokeo Khantey You and Yuki Kanayama, Cambodia Development Resource Institute

### Content Analysis: How Selected Cambodia Ministries Use Facebook Platform for Public Engagement

Sangchana Jak, Royal University of Phnom Penh

16:00 - 16:15 • Break

### 16:15 - 17:15 • Panel Discussion I

Siem Reap Hall

### **Economic Development Strategies for Developing Economies**

Speakers

Sovannroeun Samreth, Professor, Saitama University

Chandarany Ouch, Economist, The United Nations

Moderator

Sattwick Dey Biswas, Coordinator, Young Scholars Initiative

17:15 - 17:20 • Closing Day 1

**18:00 – 20:00 • Dinner Reception** 

SPOONS Café & Restaurant

### DAY 2 Friday 16 August

08:30 - 09:00 • Registration

Siem Reap Hall

09:00 - 10:30 • Parallel III

**Session 3A: Trade and Globalization** 

Siem Reap Hall

Chair: Sovannroeun Samreth, Saitama University

Global Trade Regimes Matter: Openness and Growth, 1875–2008

Rahmanda Muhammad Thaariq, University of Padua

Competitive Advantage of Cambodian Industries: Analysis of Trade Specialization at the National and Industry Levels

Bunroeun Thach, National University of Battambang

Globalization and Religion in Southeast Asia: A Granger Causality Analysis

Kim Tung Dao, Erasmus University Rotterdam

Session 3B: Agricultural Development and Climate Change

Preah Vihear Room

Chair: Phanith Chou, Royal University of Phnom Penh

Can Technology Solve Africa's Food Security Crisis?

Fabrice Ewolo Bitoto, University of Dschang

Water Scarcity & Irrigated Groundwater Use Efficiency in India: A District Level Analysis in India

Aryama Sarkar, Indian Institute of Technology Madras

Global Debt Crisis and G20: What is Deliverable?

Shrey Goyal, Gokhale Institute of Politics and Economics, United Nations ESCAP

10:30 - 10:45 • Break

10:45 - 12:00 • Research Discussion II

Siem Reap Hall

12:00 - 13:00 • Lunch

13:00 - 14:00 • Parallel IV

Session 4A: MSMEs' Development and Technology

Siem Reap Hall

Chair: Dina Chhorn, Cambodia Development Resource Institute

Digital Technology Adoption in Cambodian MSMEs: The Current Status and Challenges

Naron Veung, Cambodia Development Resource Institute

### Greening Indonesia: Addressing Regulatory Gaps in Electric Vehicle Adoption and Environmental Policy

Ahmad Sabirin, Universitas Islam International Indonesia

**Session 4B: Green Investment** 

Preah Vihear Room

Chair: Daniel Yonto, Xi'an Jiaotong-Liverpool University

Impact of FDI, Governance, and Patent on Environmental Technology on Inclusive Green Growth: Evidences from ASEAN, BRICS and Developed Countries

Sakhi Roy, Amity University, Kolkata

Assessing the Role of Islamic Finance Mechanisms in Supporting Renewable Energy investments in Morocco

Kamal Tasiu Abdullahi, Istanbul University

14:00 - 15:00 • Panel Discussion II

Siem Reap Hall

**Environmental Economics and Climate Change** 

Speakers

Phanith Chou, Associate Professor, Royal University of Phnom Penh

**Dina Chhorn**, Centre Director of Development Economics and Trade, Cambodia Development Resource Institute

Moderator

Sathya Chea, Research Fellow, Cambodia Development Resource Institute

15:00 - 15:15 • Break

15:15 - 15:45 • Book Sharing Session

Siem Reap Hall

The Politics of Welfare in the Global South

Sattwick Dey Biswas, Coordinator, Young Scholars Initiative

15:45 - 16:00 • Closing Remarks

Siem Reap Hall

Sathya Chea, Research Fellow, Cambodia Development Resource Institute

Kosal Nith, Coordinator, Young Scholar Initiative

18:00 - 20:00 • Dinner Reception

Restaurant (BTD)

### **Keynote Speaker's Biography**



Sovannroeun Samreth
Professor
Saitama University

Sovannroeun Samreth is a Professor at the Graduate School of Humanities and Social Sciences, Saitama University, Japan. In 2009, he received his Ph.D. in economics from the Graduate School of Economics, Kyoto University, Japan. He began his career as a Research Fellow at the Graduate School of Economics, Osaka University, Japan, and later as a Postdoctoral Research Fellow at the Graduate School of Economics, Kyoto University, under the program of the Japan Society for the Promotion of Science (JSPS). In 2011, he was assigned to the Graduate School of Humanities and Social Sciences at Saitama University as an Assistant Professor, and in 2013, he was promoted to tenured Associate Professor. His primary research interests include dollarization, microfinance, and governance issues in developing countries.



Chandarany Ouch
Economist
The United Nations

Chandarany Ouch is an Economist at United Nations Resident Coordinator Office (UN RCO). She has work experience in a wide range of socio-economic and development issues, including inclusive, green and resilient socio-economic policy, financing for development and SDGs, LDC graduation, economic and digital transformations, Industry 4.0, regional economic integration/ trade, employment and skill development, and women economic empowerment. Prior to joining UN RCO Cambodia, she had worked as an Economist for Myanmar, Cambodia and Lao PDR Transport and Logistics Team under the East Asia Pacific Inclusive Fellowship Program of the World Bank, a National Economist at UNDP Cambodia, a Head of Economics Research Unit at the Cambodia Development Resource Institute (CDRI), and Senior Program Manager – Economic Development Cooperation at the Australian Embassy. Chandarany holds a PhD in Economics from Monash University, Australia, and a Master in Public Policy from Lee Kuan Yew School of Public Policy, National University of Singapore.



Phanith Chou Associate Professor Royal University of Phnom Penh

Phanith Chou is the Environmental Economist. He Associate Professor at the Department of Natural Resource Management and Development, Faculty of Development Studies, Royal University of Phnom Penh. Dr. Phanith has a strong professional background and experience of more than 13 years in conducting research on ecosystem services assessment, environmental impact assessment, training, providing recommendations for policy development, implementing numerous projects, supervising Master and PhD students, and supporting development in Cambodia. He has demonstrated his capacity with government and international development agencies and private sectors, including Ministry of Environment, Biodiversity Landscape Fund (BLF), ASEAN Centre for Biodiversity (ACB), Conservation International, CIAT, UNEP-WCMC, GIZ, USAID, UNDP, JICA, GERES, WWF, WCS, UNESCO, UNIDO, ADB, ADPC, EEPSEA, ICEM, and international universities. Presently, he is doing research on ecosystem services valuation, REDD+, economic assessment of nature-based solutions, sustainable food systems, and digital agriculture extension services.



Dina Chhorn

Centre Director of Development Economics and Trade
Cambodia Development Resource Institute

Dina Chhorn is the Centre Director of Development Economics and Trade (CDET) at the Cambodia Development Resource Institute (CDRI). Prior to this role, he was a Young Economist accredited by the European Commission as a Marie Skłodowska-Curie Fellow at the 7th Lindau Nobel Laureate Meetings in Germany. He conducted postdoctoral research at the University of Lausanne in Switzerland and obtained his PhD in Economics from the University of Bordeaux in France, where he also taught courses in Econometrics and Statistics.



Alexandre Reichart
Associate Professor of Economics
Renmin University of China

Alexandre Reichart is an Associate Professor of Economics at the Sino-French Institute of the Renmin University of China. He earned his PhD in Economics in 2014 with a thesis in Economic History, devoted to the French monetary policy in the 1980s, under the supervision of André Strauss and Laure Quennouëlle-Corre. He published scientific papers about monetary policies and theories, as well as a book in the History of Economic Thought and a textbook on Economics. He is currently writing a book dedicated to Chinese History of Economic Thought, with his colleague Wenjie Zhang.

## **Abstract Book**

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### **Session 1A: Political Economy**

Siem Reap Hall

Chair: Alexandre Reichart, Renmin University of China

#### The Impact of Special Economic Zones on Urbanization Patterns in Cambodia

Daniel Yonto, Xi'an Jiaotong-Liverpool University

Abstract: Since their establishment in 2005, Special Economic Zones (SEZs) have become a cornerstone of Cambodia's economic development strategy. Similar to advanced economies that use place-based policies like SEZs to target economically disadvantaged locations, Cambodia has relied on SEZs to promote export diversification and attract foreign investment. In this way, SEZs hold immense potential to reshape urbanization patterns by creating job opportunities and attracting migrants, triggering rapid urban expansion around their zones. However, this expansion can outpace existing infrastructure, leading to challenges. While previous research has evaluated SEZ success and socioeconomic impacts, a critical gap exists in understanding their influence on urbanization and the built environment. This study bridges this gap by investigating how SEZs have impacted urbanization patterns in three Cambodian provinces: Banteay Meanchey, Preah Sihanouk, and Svay Rieng. Employing Spacenet7, a powerful open-source geospatial analysis platform, the research attempts to track building location changes and construction activity at the individual building level, utilizing a deep temporal stack of medium-resolution satellite imagery. This granular spatial-temporal data enables the mapping of the spatial extent of urbanization spurred by SEZs and identifies spatial patterns of development. By investigating these trends, this research seeks to contribute to a deeper understanding of the complex relationship between SEZs and urban development in Cambodia. Findings can inform economic development policymakers and urban planners navigating the opportunities and challenges of SEZ-driven urbanization. Additionally, the insights gained can be valuable for crafting more sustainable and balanced SEZ development strategies that promote economic growth alongside well-planned urban environments that improve residents' quality of life.

### The SOE Landscape in Southeast Asia: Advantages, Challenges, and International Lessons Jimi Rambo Arranchado, University of Canterbury

**Abstract**: This paper examines the current landscape of state-owned enterprises (SOEs) in Southeast Asia and highlights the need for a robust domestic competitive neutrality framework (CNF) to address inefficiencies and other issues associated with SOEs. Such a framework is critical for promoting regional integration, a key objective of the Association of Southeast Asian Nations (ASEAN). Once fully integrated, establishing a regional CNF becomes imperative to prevent market distortions and ensure fair competition within the internal market.

The paper is structured into six sections. The first section explores the prevalence, dominance, and privileged status of ASEAN SOEs, segmented into four subsections. The initial subsection delves into the rationales behind the creation of SOEs in Southeast Asia. It then proceeds with an examination of the prevalence and influence of SOEs in the region, supported by data and statistical evidence. It aims to establish the SOE sector's dominance in ASEAN economies, which reinforces their status as a core pillar of these economies. The section transitions to navigating the various advantages that the ASEAN SOE sector receives from their respective governments, utilizing the framework proposed by Capobianco and Christiansen. This discussion is essential as it highlights the core impediments that the competitive neutrality principle is designed to address and mitigate – the advantages granted to SOEs that are not accessible to private firms, thereby resulting in an uneven playing field. Finally, the section inquires into the lack of a detailed, actionable competitive neutrality framework in ASEAN member states. While certain member states incorporate the principle in their respective competition laws, this measure by itself falls short.

The paper proceeds with an examination of cases of abuse involving ASEAN SOEs, which is unsurprising, considering their prevalence and influence they wield. It concludes with a discussion of how this abuse can be mitigated with a robust CNF. The paper then examines how a robust CNF not only stimulates economic growth within domestic markets but also aids in the process of ASEAN integration. Once fully integrated, setting up a regional CNF is paramount for sustaining competition. Given the lack of robust CNFs in various Southeast Asian economies, the paper examines the frameworks of select Western jurisdictions, i.e., the European Union (EU), New Zealand, and Australia, presenting them as viable models for adaptation by ASEAN member states. The paper concludes with a summary of key findings regarding the role and impact of SOEs in ASEAN economies.

### Smith and Ricardo in Dasgupta: Marginalist Underpinnings

Sai Chikoti, Azim Premji University

**Abstract:** The primary objective of this project is to engage with the writings of A. K. Dasgupta and understand the nature of ideas that he demonstrated in his writings. The motivation behind this project stems from the lack of recognition given to Indian scholars within the economics discipline, especially those who were educated in economics during the pre-independent era of India. The rationale for choosing Dasgupta's texts is because his manuscripts are theoretical in nature that entail engagement with the economics of different traditions.

The project's objectives are twofold: firstly, to analyze Dasgupta's engagement with the ideas of Adam Smith and David Ricardo. In this context, the specific focus of the project is to understand the marginalist affiliation that Dasgupta demonstrates in interpreting the ideas in Classical Political Economy (CPE); mainly, Adam Smith and David Ricardo. Secondly, the project also aims to provide a methodology for studying thinkers like Dasgupta, focusing on reconstructing and assessing their ideas within the context of economic theory.

The project also aims to initiate the conversation with respect to the broader domain of Indian economic thought. In other words, this project could be considered an entry point into understanding the nature of training, influences, and inclinations while studying the ideas of Indian thinkers; in this context, it is Dasgupta.

The structure of project is as follows: It starts with an Introduction chapter that sets the stage for the study. This chapter consists of information regarding the choice of texts and methodology that was incorporated for this project.

The second chapter focuses on A. K. Dasgupta's life, academic journey and the contributions he made to the discipline of economics. This chapter provides an insight into the nature of Dasgupta's writings.

The third and the fourth chapters delve into Dasgupta's impressions of Adam Smith and David Ricardo, respectively. These two chapters are similar in terms of the approach they undertake, i.e., the primary objective of these two chapters is to provide an insight into the extent of marginalist affiliation that Dasgupta holds and also to shed light on the inconsistencies that are present in Dasgupta in the context of interpreting Smith and Ricardo. The final chapter aims to conclude the project by stating the findings and presenting the extent of marginalist affiliation in Dasgupta. However, this chapter also aims to discuss the scope of the project as well.

#### **Session 1B: Macroeconomic Policies**

Preah Vihear Room

Chair: Sovannroeun Samreth, Saitama University

### Macroeconomic Policy Space and Financing Green Structural Transformation in Southeast Asian Economies

Damon Aitken, SOAS University of London

Abstract: Climate change poses severe physical and transition risks to Southeast Asian economies positioned both in a geographical location prone to extreme weather events and sea level rise along with their integration in a dense manufacturing production network extending into East Asia and the rest of the world. Southeast Asian economies face the challenge of upgrading their production systems to ensure higher levels of human development in the face of intense global competition in the industry, while many economies still need to undertake a green structural transformation. The cost of financing this imperative transformation, with an estimate from Bain of the cost of meeting climate commitments at \$1.5 trillion by 2030, will require all possible macroeconomic policy space to raise the capital necessary. Macroeconomic policy space describes the ability of economies to conduct macroeconomic policy to aid development, and this paper develops a framework to conceptualize macroeconomic policy space in Southeast Asia, which is generally based on the specific context of the region where green structural transformation is crucial. There is a general gap in the literature on macroeconomic and industrial policy interactions in the Southeast Asian context, as much of the existing work focuses on the East Asian context. Southeast Asian economies have unique historical and geographic conditions that have led to a different institutional form than East Asian cases, and they also face different external environments arising from their generally upstream position within global production networks. This paper argues that these economies' generally peripheral position in external macroeconomic environments will determine their macroeconomic policy space to respond to the challenge of climate change through financing adaptation and mitigation. It uses the concept of monetary architecture, where monetary and financial systems are a web of interconnected balance sheets that constantly evolve institutionally (Murau et al., 2023) and integrates this concept with the concept of macroeconomic policy space to consider how the policy space of ASEAN economies is influenced by their generally peripheral position in global hierarchies that exacerbate balance sheet vulnerabilities. It moves this nascent literature from the advanced economy context to consider how it can be adapted for the needs of more peripheral economies. There are also more limited options in these economies to explore off-balance sheet financing or raise sovereign debt as in advanced economies. The ability of the central bank and the treasury in each economy to raise capital within this peripheral macroeconomic context is examined. It then moves to a discussion of the contemporary context and how changing trends within the global financial system, such as how the increasing dominance of international capital flows limits independent monetary policy (Rey, 2015) and financial integration since the Asian Financial Crisis affect this ability. It examines how ASEAN economies have attempted to create macroeconomic policy space through monetary architecture evolution historically from 1960 until now and how these economies have attempted to finance transformative industrial policy with a focus on the considerable variety of experiences within this region. A typology of ASEAN economy experiences with macroeconomic policy space and financing large-scale structural transformations is created based on their level of external constraints in monetary and fiscal policy.

#### **Dollarization and Exchange Rate Pass-Through in Cambodia**

Chanthol Hay, National University of Battambang

Abstract: This paper quantifies the effect of exchange rate variations on consumer price indices in Cambodia in the short and long run. Stabilizing the exchange rate is believed to be the best policy option in a dollarized economy to stabilize inflation. We first estimate simple exchange rate pass-through models for aggregate consumer price index and sub-indices for different periods. Then we estimate a model to investigate the asymmetry of exchange rate pass-through to see the different effects of currency appreciation and depreciation on prices. The results show that the passthrough is not complete both in the short and long run and tends to decrease recently. In addition, domestic currency appreciation tends to generate a larger effect on prices than depreciation for some CPI sub-items.

Assessing the extent of exchange rate pass-through has important implications for the conduct and design of monetary policy. Exchange rate pass-through tends to be higher in emerging than in developed economies. Calvo and Reinhart (2000) suggest that higher exchange rate pass-through to prices in emerging economies compared to developed economies is one of the reasons why emerging economies are reluctant to tolerate large exchange rate movement. Calvo and Reinhart (2002) shows that fear of floating arises from the combination of lack of credibility (as manifested in large and frequent risk-premiums chocks), a high pass-through from exchange rate to prices, and inflation targeting. They also pointed out that liability dollarization, which is pervasive in emerging markets, may produce a fear of floating. Assessing the exchange rate pass-through into consumer prices is important in a number of ways. First, it provides a better understanding on whether the central bank is credible or not in its policy of maintaining stable inflation. A low pass-through would suggest that the Central Bank has been successfully conducting a credible monetary policy. Second, understanding the degree of exchange rate passthrough can help explain the effect of exchange rate change on current account of a country. Ito and Sato (2008) suggested that, in the literature of pass-through, when the degree of pass-through to tradable prices is high, trade balance will adjust in response to change in the relative prices of tradables to nontradables. however, when the pass-through is low, the exchange rate changes do not help adjust the trade balance because the relative price does not change. Currency depreciation would not help improve competitiveness of an economy if complete pass-through occurs. If exchange rate pass-throughs to domestic consumer prices as well as to import prices are complete, an economy cannot gain competitiveness through currency devaluation because the real exchange rate stays unchanged. In this case of complete pass-though, currency devaluation will cause high inflation and increase debt-burden of domestic corporate and financial institutions that have net debt denominated in foreign currency. Currency devaluation can cause expenditure switching and trade balance if it affects import prices and not raising all prices. Third, the degree of exchange rate pass-through is useful for changing inflation expectation of consumers in particular when the economy is at the zero lower bound of the interest rate. Shioji (2014) suggested that the Central Bank of Japan could change inflation expectation through exchange rate because the passthrough of exchange rate to imported input prices is relatively high. Fourth, exchange rate pass-through can have distribution effects as the change in exchange rate can affect prices at different level. Because consumers at different income level consume different basket of goods, the change in prices through exchange rate change will affect real income of those different income group disproportionately. While exchange rate flexibility should be maintained in order to absorb exogenous shocks, exchange rate stability can be important as well.

### US Dollar or KH Dollar? An Institutional and Infrastructural Analysis of the Cambodian Monetary Framework

Clément Berthou, Université Grenoble Alpes

**Abstract:** Demonetized between 1975 and 1979, between the Khmer Rouge's seizure of power in Phnom Penh and their precipitous fall to Vietnam, then fragmented around a civil war that didn't end until 1998, Cambodian society had to learn to rebuild itself, and with it, its monetary and economic framework. A heavily dollarized country and a small, open economy, since massive external intervention and financial assistance in the 90s, the National Bank is now championing the reintroduction and use of a Cambodian national currency, the Riel (KHR).

Beyond a binary and quantitative reading of that situation that would confront the dollarization and realization of Cambodia, this paper traces a third path, mobilizing French institutionalist theories and socio-economics instruments, to highlight the complexity of the Cambodian monetary compromise and the specificities of the Cambodian monetary framework. Structured around three sectoral groups - the domestic sector, the international sector, and the banking sector - and their respective institutional influences, the Cambodian monetary framework is undergoing infrastructural changes that are changing the relationship between these three groups and the currency.

Between de-dollarization and promotion of the Riel and considering development and stability imperatives, subtle intermediary constructions are taking shape, all forms of re-appropriation of the monetary framework, and ethical, hierarchical, and methodical levels of trust by Cambodian society. Examples such as the birth of the ACLEDA bank (1993), the technical development of ABA (mid-2010), the creation of the Sosoro Museum (2019), and the launch of the groundbreaking Bakong system (2020) help shed light on this.

### Session 2A: The Development of Education in Cambodia and the Role of Social Policy

Siem Reap Hall

Chair: Sathya Chea, Cambodia Development Resource Institute

### Perceptions of Capacity Development Support among Sub-National Education Staff in Cambodia: Insights from NGO and Development Partner Initiatives

Chanmi Kim, Seoul National University

**Abstract:** The main objective of this study was to understand the experiences and perceptions of education staff at the sub-national level in Cambodia regarding the capacity development support they received. The research aimed to identify the models of capacity development provided to these staff and examine the diversity of available support models, with a particular focus on the impacts of VSO's capacity development project on both individual and organizational growth.

The study employed semi-structured individual and focus-group interviews with 28 directors and deputy directors from Provincial Offices of Education (POE), District Offices of Education (DOE), and school directors. Findings revealed that education staff received a variety of capacity development activities, offered by the Ministry of Education and Youth and Sports (MoEYS), and other development partners and NGOs. The activities were categorized into the three models of Capacity Development which are training and workshops, mentoring and coaching, and communities of practice. The study confirmed that these three models are widely used in the country by NGO's support and other development partners to improve the quality of education in Cambodia.

The research highlighted that education staff benefited significantly from capacity development in planning, leadership, and management provided by VSO volunteers through training, coaching, and mentoring. Participants reported positive effects on their work, including improved planning abilities (AOP and School Development Plans), enhanced leadership and management competencies, changes in working behavior, an increased interaction among education staff, better relations and communication between POE, DOE, and schools, improved school environments, higher enrolment rates, and improved education quality.

The study concluded that VSO's capacity development efforts contributed significantly to achieving the third education policy outlined in the Education Strategic Plan (ESP) 2014-2018, which focuses on enhancing effective leadership and management of education staff at all levels. VSO played a crucial role in developing an education planning system at the sub-national level, enabling staff to produce evidence-based Annual Operational Plans (AOPs) and organizational development plans that align with broad educational policies and strategic plans. The process of plan formulation became more inclusive, involving relevant stakeholders, thus promoting shared ownership and better monitoring and evaluation of the plans.

### Critical Success Factors in Cambodian Textbook Supply Chain: A Qualitative Take with Quantitative Flavor on Track and Trace (TnT) System

Phoury Bun, Cambodia Development Resource Institute

Abstract: Books are one of the most significant enablers of children's academic achievement. Nevertheless, shortages of books persist in many developing countries, including Cambodia. In response, Cambodia piloted a digital solution called Track and Trace (TnT) in 2017 and fully adopted the application in 2020 to manage textbook supply nationwide. This study applied a case study design with multiple sources of data to (i) examine the perceived impacts of TnT, (ii) determine factors critical to TnT development and implementation in the Cambodia textbook supply chain, and (iii) identify the remaining challenges encountered by the stakeholders. We used primary data from 31 semi-structured interviews with key actors in the textbook supply chain and an online survey of 807 primary schools across Cambodia. The analyses show that TnT saved time, finances, and human resources, improved textbook accessibility, and promoted transparency and accountability. Six critical factors were found to be the main drivers of the development and implementation of TnT: long-term vision and leadership commitment, information technology, user commitment, training and capacity development, and collaboration between stakeholders. The COVID-19 pandemic was also a significant accelerator of this digital solution. Nonetheless, we observed some persisting challenges in adopting TnT, including the digital divide between schools in urban and rural areas, the TnT interface's limited user-friendliness, high expenses for improvement and insufficient funding,

inadequate user training and guidance materials, and a lack of engagement among some users. The analyses reiterated the importance of the government's long-term vision and commitment to digital transformation. Stakeholders should collaborate to ensure equal access to digital resources and provide TnT training, and local services should be hired to improve TnT functionality and enable flexible school-level access.

### Beyond Storage: An Exploration into Textbooks Management, Damage, and Loss in Cambodia Primary Schools

Lychoeng Na and Phoury Bun, Cambodia Development Resource Institute

Abstract: Ensuring all students have access to books remains paramount for learning success, but the outcomes of efficient book management practices can further augment sustainability and efficiency. To date, many studies and programmatic interventions have focused on enhancing accessibility to quality textbooks and other reading materials. Nevertheless, how those reading materials are managed and used remains understudied, especially in the context of developing countries like Cambodia. In bridging this gap, this study explored textbook management practices across Cambodian primary schools and investigated their correlation with textbook damage and loss. We used an explanatory design of mixed methods in which data was collected from an online survey of 807 primary school directors across Cambodia and 27 semi-structured interviews with school directors and officers at the district and provincial levels. Textbook damage and loss are inevitable, but they can vary throughout the delivery, distribution, storage, and end-year collection process. Results from the online survey revealed that since early 2020, Cambodian primary schools have almost never experienced substantial textbook damage and loss, except during end-year collection from their students, which they still frequently encountered. The availability, type and condition of the library were negatively correlated with textbook damage and loss. Insights from the interviews also confirmed such affecting factors but also further explained that it could also be due to textbook life and different care practices of textbook users, especially students. To promote sustainable and efficient textbook management, the study recommended that MoEYS should invest in improving library infrastructure and resources while schools, students, and communities should work closely to promote and practice better textbook care.

## How Can Cambodia Enhance its Social Protection Policies for Vulnerable Populations by Adapting Strategies from South Korea, Particularly in Women's Empowerment and Digital Literacy? SeYeon Kim, Seoul National University

Abstract: Background: South Korea and Cambodia are under a Strategic Partnership, where the South Korean and Cambodian government have expressed their willingness to implement its 3rd 'Country Partnership Strategy (CPS) for Cambodia 2021-2025'. The COVID-19 pandemic, however, has also highlighted structural inequalities in terms of gender and education, leading to increased domestic and international calls for women's empowerment and digital literacy. Thus, policy interventions are needed to develop the capacities of women and digitally marginalized groups in Cambodia, whose vulnerability has been reaffirmed during the COVID-19 pandemic.

Aim: The purpose of this study is to analyze the path that South Korea has taken thus far to empower women's status and digital literacy and provide evidence-based lessons learned for Cambodia.

Methods & Results: A comprehensive literature review will be conducted, and results will be categorized according to the Critical Capacity Development (CCD) Framework. 'Capacity Assessment' and 'Comparative Analysis' will each be assessed- focusing on the key success factors of South Korea's development (in the context of women's empowerment and digital literacy), which could be recommended in the Cambodian context.

Conclusions: Although our study is still in progress, our study results are anticipated to provide a detailed understanding of the capacity needs of Cambodia based on the lessons learned from South Korea. Implementing digital literacy as one of the tools to empower women in Cambodia could drive significant social change. Considering South Korea's development path, empowering women digitally could provide them with the appropriate tools to overcome current challenges and create new platforms for innovation. This research will delve deeply into this interrelationship, aiming to offer practical strategies that incorporate digital literacy as a core element of women's empowerment initiatives. Therefore, this study ultimately aims to provide realistic yet sustainable policy recommendations for Cambodia's women empowerment and digital literacy.

### Session 2B: ASEAN Political Economy and Labor Market

Preah Vihear Room

Chair: Chandarany Ouch, The United Nations

### ASEAN as a Provider of Public Goods: An IPE Analysis of Security in the South China Sea

Simon Welfonder, Lao Social Research and University Grenoble Alpes

**Abstract:** The South China Sea, often referred to as "the sea of all territorial disputes," has the potential to escalate into serious international conflicts. The two main areas of dispute are the Paracels and the Spratlys. Taking an international political economy approach and focusing on ASEAN and China, we analyze the issue of security in the South China Sea by examining how it is produced, in what form, and by whom.

It appears that ASEAN is seeking to provide a regional public good, namely security in the South China Sea. This public good takes the form of a regime designed to harmonize relations and establish rules and procedures among the protagonists in this dispute. However, this regime cannot be effective without the participation of China, which is emerging as a regional hegemon. ASEAN is therefore adopting a strategy of dialogue with the United States to compel China to join the negotiating table. Opening up the dialogue to new partners leads to a metamorphosis in China's relative gains, which we describe using game theory.

#### **Estimating Migrant Population in Malaysia and Its Implications**

Emir Izat Abdul Rashid, Asia School of Business

Abstract: The uncertainty in estimating the migrant population in Malaysia has posed public policy challenges in implementing suitable responses to address the vulnerabilities faced by them. The variety of estimates by different scholars makes it hard to know which estimates are more reliable than others for policy-making. We would like to formalize assumptions that enable the comparisons between different estimates. We developed a model where a migrant with a legal status chooses to vaccinate according to their preference and probability of being caught and getting infected with COVID-19. Then, from the assumption of the parameter values, we can derive the estimate of undocumented migrants in Malaysia. Our benchmark estimate is consistent with the lower bounds typically published by NGO and international organizations ~ 2 million undocumented migrants. Changes in the parameter values and assumptions allow us to quantify and formalize the implications of empirical estimates made by other organizations and scholarly work. A prominent issue arises for a wide range of social science research that requires the examination of phenomena undefined during data production. For example, during census enumeration, undocumented migrants may not be defined as such because the option is not available during the counting process. In most cases, social science researchers ranging from demographers, sociologists to a wide variety of other fields have formulated sampling techniques that accommodate definitions undefined during data production. However, the wide variety of assumptions each technique uses to define the sample, collect them in the field, process them into usable datasets, and analyze them has led to potentially non-replicable findings. Yet, despite the mixed findings of different studies, how can we formulate a technique to compare and contrast different estimates or findings? What are the methods where given two population estimates -- previously undefined by verifiable sources -- using different methods, we can formulate basic assumptions in which we can identify and quantify the source of bias?

### Long-term Changes and Gender Gap in the Cambodian Labor Market over Time

Saokeo Khantey You and Yuki Kanayama, Cambodia Development Resource Institute

Abstract: The Cambodian economy has grown rapidly over the last three decades. However, it remains unclear how the occupational structure and the gender gap in labor market have changed over time with economic development in this country. Using three population censuses in 1998, 2008, and 2019, we present descriptive evidence on long-term changes in labor force participation and career choices in Cambodia. First, common employment types have changed over time. At the time of the 1998 census, self-employment was the main job for men, whereas unpaid work was the main job for women. However, in 2019, both men and women are more likely to work as employers or employees. Second, we find that there is a gender gap in career trajectories. Men used to start their careers as unpaid workers and quickly transitioned to self-employment in the 1990s, but men in the 2010s tended to start their careers in formal employment, and fewer people moved to self-employment. Women in the 1990s used to start working as unpaid workers and continued working as unpaid workers throughout their careers, whereas women in the 2010s were more likely to work in formal employment or self-employment. Third, the share of agriculture in the Cambodian economy has declined, resulting in the movement of workers from agriculture to manufacturing, construction, and sales and retail. Finally, we present our preliminary findings on gender differences in the impact of childhood on careers. Upon the arrival of children, men move from selfemployment to formal employment, but women tend to move from self-employment and formal employment to unpaid work.

### Content Analysis: How Selected Cambodia Ministries Use Facebook Platform for Public Engagement

Sangchana Jak, Royal University of Phnom Penh

Abstract: More than just a pastime scrolling, Facebook significantly takes part in Cambodia's digital economy and society. In 2013, many Cambodians turned to Facebook to communicate as it was the only uncensored medium (Men, 2014). From then on, many government bodies started to adopt Facebook to disseminate information (Hean, 2015). According to the Ministry of Foreign Affairs and International Cooperations, there are currently 36 ministries and national institutions in Cambodia–each of their own has various Facebook pages. This research examines six ministries and how Cambodia's government bodies utilize the Facebook platform for public engagement to understand and document their practices.

This research was conducted every day during the month of March 2024 using direct observation grids. The first section of the grid was to quantify the ministries' content, which includes informative content, entertainment and calls to action. The second part of the observation grid focused on the visuals categorized into people, settings, graphics, and places. The third section of the grid was based on their length, settings, and text style. This direct observation of the ministries' Facebook accounts allowed for content analysis and deconstruction of the different engagement types and the key performance leads that drive the most engagement.

#### Methodology

This research was conducted every day during March 2024 using direct observation using observation grids. The first section of the grid is to quantify the ministries' content, which includes informative content, entertainment and calls to action. The second part of the observation grid focuses on the visuals categorized into people, settings, graphics, and places. The third section of the grid is based on their length, settings, and text style. This direct observation of the ministries' Facebook accounts will allow content analysis and deconstruct the different types of engagement and the key performance lead that drives the most engagement.

#### Key Findings

Out of the six ministries, the Ministry of Information posted the most, with over 1000 posts in the month, and the Ministry of Post and Telecommunications posted the least, and they were only active 24 days out of the 31 days. Ministry of Education receives the most engagement. The content format that is mainly used by the selected ministries is images, videos, and official documents.

In March 2024, the key performance leads of each ministry were highlighted through various activities and engagements. The Ministry of Health and the Ministry of Post and Telecommunications had the Prime Minister, Minister, or high-ranking officials joining various events as their key performance lead. The Ministry of Education engaged with students through interactive content and live streams. The Ministry of Women's Affairs collaborated with influencers, celebrities, and high-ranking officials to promote their messages. The Ministry of Tourism

showcased videos of Angkor Wat, local places, and activities in Siem Reap, reposting content from various creators. Meanwhile, the Ministry of Information disseminated various official documents from different ministries, focusing particularly on trending topics.

While it is evident that ministries are actively posting content online and disseminating information to the public, measuring the effectiveness of their dissemination approach remains challenging. This difficulty arises from the absence of governance or regulation dictating how ministries should operate in the digital space. Each ministry targets different audiences and employs various approaches, utilizing distinct key performance leads to achieve their engagement goals. This lack of a standardized framework makes it difficult to assess and compare the impact of their efforts accurately.

The varying dissemination approaches and the absence of governance imply a need for more structured guidelines to ensure consistency and effectiveness. Ministries must develop and adhere to regulations that standardize their online activities, ensuring a cohesive strategy that enhances their overall impact. Additionally, the one-sided nature of their communication, where ministries rarely reply to or acknowledge public comments, highlights a significant area for improvement. By fostering two-way communication and actively engaging with the public, ministries can build stronger connections and better understand the needs and concerns of their audiences. This shift towards interactive and responsive engagement would not only improve public trust but also enhance the overall effectiveness of their dissemination strategies.

#### Conclusion

Each ministry operates independently, and they can tailor their dissemination approaches, content formats, purposes, and key performance leads to gain a high engagement rate for their own pages. However, this flexibility should not justify posting content with proper governance and guidelines. Adhering to governance ensures consistency and accountability, maintaining the integrity and reliability of the information shared.

#### **Session 3A: Trade and Globalization**

Siem Reap Hall

Chair: Sovannroeun Samreth, Saitama University

### Global Trade Regimes Matter: Openness and Growth, 1875–2008

Rahmanda Muhammad Thaariq, University of Padua

**Abstract:** The debate between the optimists and the pessimists about the role of trade openness on growth is far from being resolved. This study aims to re-examine the empirical evidence from the late 19th century until the early 21st century in a consistent empirical model that has been largely neglected in the literature. I compare the relationship between trade openness and growth in three eras: the first wave of globalization era (1875–1913), the protectionism era (1919–1938), and the trade liberalization era (1969–2008). The empirical evidence indicates that the relationship between trade openness and growth depends on the state of the global trade regime and certain country characteristics. There is no evidence that trade openness negatively affected economic growth, except in the protectionism era. During the trade liberalization era, the relationship was positive but fragile. The positive effect during this era was sensitive to the type of estimated models.

The relationship between trade openness and growth is more complicated by sorting countries and grouping them into subsamples based on income level. For low-income countries, trade openness was negatively associated with growth in the protectionism era. During the first wave of globalization era and the trade liberalization era, the relationship between trade openness and growth was insignificant. This suggests that free trade hinders growth for low-income countries only when the world becomes more closed. For high-income countries, trade openness is not relevant for growth, except during the protectionism era. The evidence shows that the contribution of isolation on growth in high-income countries during the first wave of globalization came not from fewer exports, but probably from high tariffs to protect infant industries. It is interesting to know that they have never been suffering from any trade orientation, regardless of the state of the world.

The long historical evidence shows that there is no universal "rule" applicable for every period. The relationship between trade openness and growth depends on the nature of trade environments in different eras and country groups.

This study concludes that even though a liberal trade policy does not necessarily boost growth, it is useful for policymakers to know under what trade environments it may have detrimental effects. To the extent the high-income and the low-income countries are collectively more open to the world, a liberal trade policy is less likely to undermine growth, especially for low-income countries.

### Competitive Advantage of Cambodian Industries: Analysis of Trade Specialization at the National and Industry Levels

Bunroeun Thach, National University of Battambang

**Abstract:** This article aims to understand trade specialization patterns from 2001-2019 at the country and industry level. To achieve this research objective, we calculate trade specialization indices on the sample of 253 high-tech and low-tech industries. These indices have been classified into two periods to analyze the patterns of trade specializations at the industry level. Then, the Galtonian regression was run on equations of trade specialization pattern to understand the pattern of trade specialization at the national level.

Cambodia has an incipient science and technology system to support domestic firms' organizational and technological capabilities, promoting industrial transformation. It has four growing high-tech industries, 16 emerging high-tech industries, 11 marginal high-tech industries, and 23 losing high-tech industries. Also, it has 11 growing low-tech industries, 12 emerging low-tech industries, 73 marginal industries, and 11 losing low-tech sectors.

Cambodia has concentrated on only a few established industries; however, it has started to widen its trade specialization slightly in both low-tech and high-tech industries but with slow mobility within and between sectors in the long period at the national level. Cambodian industries reveal stickiness and incremental change, which means that the trade specialization's initial values move slowly to the average within sectors. The degree of specialization shows the decrease in dispersion of the trade and technological specialization, which addresses slow mobility between sectors toward the broad pattern of specialization. According to Unger (1988), this finding

suggests that Cambodia lacks Schumpeterian entrepreneurs who have the organizational and technological capabilities to learn and adapt the new knowledge and technologies into the local context before diffusing them in the Cambodian economy to build national competitiveness in the international markets.

### Globalization and Religion in Southeast Asia: A Granger Causality Analysis

Kim Tung Dao, Erasmus University Rotterdam

Abstract: This paper examines the Granger causality between globalization—both in general and in its specific dimensions (economic, social, and political)—and five major religions (Buddhism, Christianity, Confucianism, Hinduism, and Islam), as well as Atheism. The study utilizes panel Vector Autoregression (VAR) models with a Generalized Method of Moments (GMM) approach, analyzing a sample of ten Southeast Asian countries: Brunei Darussalam, Indonesia, Cambodia, Lao PDR, Myanmar, Malaysia, Philippines, Singapore, Thailand, and Vietnam, over the period from 1990 to 2015. The results underscore the heterogeneity of the relationship between globalization and religion, varying not only across different religions but also among the four measures of globalization. Interestingly, Granger causality is identified in most cases, suggesting that a mono-causality approach would be insufficient to fully understand these complex interactions.

The study reveals that the causality between globalization and religion is multifaceted, with significant implications for policy and further research. One notable finding is the consistent presence of Granger causality in all models involving Atheism. This suggests that Atheism plays a more critical role in the discourse of the relationship between religion and globalization than previously acknowledged, highlighting a significant gap in existing research that has largely ignored non-belief systems. The study's evidence of Granger causality in most examined scenarios indicates that religions, including Atheism, potentially exert substantial influence on the progression of globalization. This relationship calls for more nuanced research efforts to explore these dynamics further. The discrepancy in the existence and direction of Granger causality effects between globalization and various religions indicates the need for a more comprehensive understanding of how these forces interact. The findings suggest that policy implications could be substantial, as understanding the religious dimensions of globalization may help in formulating strategies that acknowledge and address the cultural and social underpinnings of economic and political change in Southeast Asia.

### Session 3B: Agricultural Development and Climate Change

Preah Vihear Room

Chair: Phanith Chou, Royal University of Phnom Penh

#### **Can Technology Solve Africa's Food Security Crisis?**

Fabrice Ewolo Bitoto, University of Dschang

Abstract: Artificial intelligence (AI) has made rapid progress in recent years. Specifically, digitalization in agriculture remains one of the most important developments to meet the growing economic, ecological and social demands in the agri-food sector of developing countries. According to the FAO et al. (2022), approximately 720 million people in the world were undernourished in 2020, compared with 821 million in 2017 and 784 million in 2015. This represents approximately 8.9% of the world's population, with an additional 10 million people at risk of hunger within a year and almost 60 million within five years. Most of these people live in developing countries, particularly in Africa, where Goal 2 of the Sustainable Development Goals (SDGs) remains a top priority. The objective of this work is to analyze the impact of AI adoption on food insecurity in Africa. Using several recent impact analysis methods, we conducted the empirical analysis on a panel of 54 African countries. Several results emerge. First, the adoption of AI on average significantly reduces food insecurity in Africa. The application of AI in the agri-food sector helps to increase the efficiency, productivity and resilience of food systems. Aside from the optimism offered by the adoption and use of AI to combat food insecurity, disparities remain between countries. African countries would do well to invest more in high-tech infrastructures but also to increase the number of partnerships between African and international players to capitalize on modern technological knowledge to achieve the goal of hunger zero. Finally, partnerships between African players and international organizations and research centres need to be stepped up to exchange best practices and promote the sharing of technologies and knowledge.

### Water Scarcity & Irrigated Groundwater Use Efficiency in India: A District Level Analysis in India Aryama Sarkar, Indian Institute of Technology Madras

Abstract: The study examines the impact of water scarcity on irrigation efficiency in India from 2011 to 2017 using Data Envelopment Analysis and identifies key socio-economic and climatic factors influencing efficiency scores. The findings indicate that water scarcity heightens competition among farmers, potentially leading to over-extraction of groundwater. Tobit and Lewbel IV regression analysis reveals the significant influence of temperature, rainfall, crop diversification index, and government investment in agricultural research and education on efficiency scores. The study underscores the need for immediate policy measures and improved governance to ensure sustainable groundwater usage for irrigation and future food security.

#### Global Debt Crisis and G20: What is Deliverable?

Shrey Goyal, Gokhale Institute of Politics and Economics, United Nations ESCAP

Abstract: The global debt levels were already significantly high, even before the initial COVID-19 lockdowns. However, as the pandemic unfolded, unprecedented economic support measures were implemented by states to stabilize financial markets and alleviate liquidity and credit constraints worldwide. The ongoing conflict in Ukraine also introduced additional risks, compounding the already elevated levels of public borrowing, while the pandemic continues to strain government budgets. According to the IMF's Global Debt Database, borrowing surged by 28 percentage points in 2020, reaching 256 percent of gross domestic product (GDP). Government borrowing accounted for approximately half of this increase and public debt now comprises nearly 40 percent of the global total, the highest level observed in nearly six decades.

Many countries experienced a rise in government debt as they borrowed to finance increased healthcare expenditures, social support programs, and economic stimulus measures. However, deficits increased, and debt accumulated much faster than during previous recessions, including the global financial crisis. However, it is important to note that the debt situation varies across countries and regions, and each country's specific circumstances and policy responses play a crucial role in determining its debt situation. Factors such as economic growth, debt sustainability, fiscal policies, and external vulnerabilities also influence the overall debt dynamics.

The dynamics of the debt burden are influenced by interest rates, prices, and real interest rates, as well as the currency denomination of the debt and exchange rate fluctuations, which affect the safety of debt levels. Two

countries with the same debt-to-GDP ratio can have different levels of debt safety. Sovereign credit ratings provided by rating agencies attempt to address these uncertainties, but their effectiveness has been inconsistent. In summary, there is no specific threshold to define a safe level of debt. However, debt levels become risky if current and future fiscal policies lead to a consistent increase in debt-to-GDP ratios.

Representing the top twenty-five indebted countries in 2022, they have a cumulative debt of US \$ 82.678 trillion. (The value of debt was calculated on the basis of multiplying the debt-to-GDP ratio with the GDP of the country for the year 2022. The world public debt was calculated by doing the same for 195 countries from the data in World Economic Outlook (April 2023). The value of total debt for the top twenty-five countries was calculated by subtracting other countries' debt from world public debt). The top 3 countries U.S, China, and U.K alone, amount to 60% of the total public debt of the nations as of 2022 (adding the top three percentage values in the table below). This reflects how they are highly indebted and exceed their GDP mark, which represents the poor public debt management abilities of these top countries. While the top economies have paramount debt levels the situation is also grim in the least developed countries in the world.

The top ten countries (arranged in terms of the highest debt to GDP ratio, 2022) over the last ten years from 2012 to 2022, which includes the disruptive pandemic year 2020 that forced many countries to accumulate additional debt to avoid any kind of sovereign defaults. It can be seen that the debt-to-GDP ratio of these countries has remained high during this entire time period of analysis. Caner et al. (2010) state that the threshold for the government debt-to-GDP ratio is set at 77 percent, and if the debt is higher than this threshold, each additional percentage point will cost 0.017 percentage points of annual real growth per year. In emerging markets where the threshold for debt to GDP ratio stands at 64 %, this effect is even more pronounced. In such countries, with each additional percentage point of government debt, there is a loss in annual real growth amounting to 0.02 percentage points. It can be easily observed that even in well-performing economies, this public debt threshold has not been met, and these countries have consistently high debt-to-GDP ratios.

### Session 4A: MSMEs' Development and Technology

Siem Reap Hall

Chair: Dina Chhorn, Cambodia Development Resource Institute

#### Digital Technology Adoption in Cambodian MSMEs: The Current Status and Challenges

Naron Veung, Cambodia Development Resource Institute

Abstract: Digital technologies are crucial for businesses in the digital age as the COVID-19 pandemic has exposed businesses globally, especially small enterprises, to turmoil. More MSMEs and consumers have adopted digital technologies. In Cambodia, MSMEs have also seen the importance of digital technologies for their businesses, while also facing challenges in adopting digital technologies. The Cambodian government has prioritized the acceleration of digital technology adoption (DTA) for all social actors. As MSMEs, particularly women-owned, are the backbone of Cambodia's economy and engine of economic development, due to their important roles in employment and income generation, poverty alleviation and GDP growth, Cambodia needs to diversify its economy through the MSME sector development for local business promotion, private sector development, and local production. Against this backdrop, this paper examines the current status of DTA among MSMEs, particularly women-owned, and their challenges in adopting digital technologies for their business operations and practices. The paper uses data from an ADB-funded MSME survey of 414, conducted by the Cambodia Development Resource Institute between 6-30 May 2024.

The survey questionnaire tool listed different levels of digital tools in the order of technology sophistication, ranging from handwritten notes to professional software, for each business function of the seven general business dimensions (business administration; production or service operations planning; sourcing, procurement, and supply chain management; marketing and product development; payment methods, and quality control inspection). Using this survey data about which technology each firm uses most frequently in each business function, we construct an index for the extent of technology adoption. We assign a rank to each technology in a business function, which increases discretely from 1 for the least advanced technology. This relative rank takes any values between 0 and 1 and increases as firms use more advanced technologies. This summarises the level of technology adoption in each business throughout business functions.

The study's findings show most MSMEs use basic digital and electronic tools and applications. Digital and electronic device ownership is also found a problem for micro and small women-owned MSMEs, preventing them from reaching wider markets or customers. Many micro- and small enterprises mainly use mobile phone networks for their business, while proper ADSL/fiber connections are in low use. Regardless of locations, sectors, size, and genders, the level of MSMEs's DTA remains low, using basic digital tools for business. Challenges for MSMEs include a lack of technical skills, information on available resources, uncertainty of demand, and knowledge of acquiring digital technologies. The Cambodian government must develop and implement comprehensive digital policy initiatives to address these challenges and bridge the digital divide, ensuring MSMEs and other businesses have access to resources and opportunities.

### Greening Indonesia: Addressing Regulatory Gaps in Electric Vehicle Adoption and Environmental Policy

Ahmad Sabirin, Universitas Islam International Indonesia

Abstract: The regulations regarding EVs in Indonesia still do not pay enough attention to environmental issues, or legal certainty for investors, and do not yet cover the regulation of the use of electric batteries and the management of waste batteries. The existing regulations are still oriented solely towards business, economics, and politics. In fact, in the case that mitigating climate change is not the main goal, it can be seen that the existing regulations do not accommodate the environmental side. This article examines the urgency of climate change controls and renewable energy use through EV regulation in Indonesia. Indonesia has enormous natural nickel re-source potential, which can be used as raw material for electric vehicles. This can certainly support Indonesia's commitment to creating a clean climate as a commitment to the Paris Agreement and the Kyoto Protocol. The policy for managing and regulating EVs is intended because the transportation sector is contributing to the largest carbon emissions in Indonesia, with a figure of 638 million tCO2e in 2019, which, of course, will impact climate change. Indonesia is still focused on developing facilities, but the acceleration carried out in Indonesia is quite rapid in terms of accelerating the construction of EV battery factories. This can certainly be a turning point for Indonesia in realizing Green Development through climate regulation based on EV policies. Thus, things that can support achieving this goal are providing incentives such as tax breaks or subsidies for the purchase of EVs to

encourage their use, developing charging infrastructure in all regions to support the widespread use of electric
vehicles, and renewable energy industries to ensure that EVs are charged using clean energy sources.

#### **Session 4B: Green Investment**

Preah Vihear Room

Chair: Daniel Yonto, Xi'an Jiaotong-Liverpool University

### Impact of FDI, Governance, and Patent on Environmental Technology on Inclusive Green Growth: Evidences from ASEAN, BRICS and Developed Countries

Sakhi Roy, Amity University, Kolkata

Abstract: Inclusive Green Growth plays a significant role in achieving a green economy. Inclusive green growth captures not only economic growth but also environmental sustainability and social equity. The study attempts to investigate the impact of the net inflow of foreign direct investment (FDI), Governance, and green technology on inclusive green growth across the ASEAN, BRICS, and Developed countries. The specific objectives of the study are as follows. The first is to measure inclusive green growth across the selected countries. The second is to estimate the factors like FDI, governance, and patents on environmental technology that affect inclusive green growth across the selected countries. The third is to examine the impact of Rio+20 on inclusive green growth across the selected countries. The study is based on secondary data collected from World Bank and OECD sources over 20 years (2000-2019). The study has selected 15 countries from three groups of countries, namely, BRICS- Brazil, Russia, India, China, South Africa; ASEAN - Thailand, Philippines, Singapore, Malaysia & and Indonesia, and among Developed countries such as – Japan, United Kingdom, Germany, France & Canada. The study has utilized a panel data regression model to investigate the factors affecting inclusive green growth. In addition, the Least Square Dummy Variable (LSDV) model is utilized to investigate the impact of Rio+20 policies on inclusive green growth.

The inclusive green growth is measured by the inclusive green growth index (IGGI). The governance is measured by the governance index, which is calculated using six worldwide governance indicators such as control of corruption, government effectiveness, political stability and absence of violence, regulatory quality, rule of law and voice accountability. Patents on Environmental Technology as a percentage of total patents are used to understand the impact of Green Patents. Green Patent signifies innovation in green technologies, which is crucial for transitioning towards a greener economy. The results of the study showed that FDI has a positive and significant impact on inclusive green growth in BRICS and developed countries, while governance has a negative and significant impact on inclusive green growth in BRICS and ASEAN countries. The patent on environmental technology has a positive and significant impact on inclusive green growth in BRICS countries. The paper has important policy implications for the efficient functioning of institutions/ governance and green technology for transitioning towards a greener economy.

### Assessing the role of Islamic finance mechanisms in supporting renewable energy investments in Morocco

Kamal Tasiu Abdullahi, Istanbul University

Abstract: This study examines how Islamic finance supports renewable energy development in Morocco. Countries are prioritizing renewable energy projects due to climate change and the need to switch to sustainable energy. Morocco, which imports most of its energy and wants to cut carbon emissions, has promoted renewable energy development. Islamic finance's ethical and socially responsible investments support Morocco's sustainable development goals. This study addresses Islamic financing and renewable energy investments through a comprehensive literature assessment. Islamic banking, sukuk, and Islamic crowdfunding platforms are examined to determine their potential to promote renewable energy projects in Morocco. The paper also examines Morocco's renewable energy projects and investors' difficulties obtaining conventional funding. This study shows Morocco's Islamic financing and renewable energy synergies. Islamic finance systems, such as profit-sharing, asset-backed financing, and ethical investment standards, can attract local and international sustainable development investors. The paper also examines regulatory and institutional frameworks for Islamic finance in renewable energy. This study adds to the literature on Islamic finance, renewable energy, and sustainable development by examining how Islamic finance systems assist renewable energy projects in Morocco. Policymakers, financial institutions, and investors promoting renewable energy projects in Morocco and similar nations can learn from the findings. This research emphasizes that Islamic financing institutions, renewable energy companies, and governments should collaborate to speed the transition to a sustainable energy future. The core values of sustainable development, which involve fulfilling present needs while safeguarding the interests of future generations, align well with the fundamental principles of Islamic finance, which prioritize justice, equity, and the promotion of societal well-being.

### **List of Workshop Participants**

**Ahmad Sabirin** 

Universitas Islam Internasioanl Indonesia

**Alexandre Reichart** 

Renmin University of China

**Aryama Sarkar** 

Indian Institute of Technology Madras

**Bunroeun Thach** 

National University of Battambang

**Chandarany Ouch** 

The United Nations

Chanmi Kim

Seoul National University

**Chanthol Hay** 

National University of Battambang

**Clément Berthou** 

Université Grenoble Alpes

**Damon Aitken** 

SOAS University of London

**Daniel Yonto** 

Xi'an Jiaotong-Liverpool University

**Dina Chhorn** 

Cambodia Development Resource Institute

**Emir Izat Abdul Rashid** 

Asia School of Business

**Fabrice Ewolo Bitoto** 

University of Dschang

**Hanang Himawan** 

Cambodia Development Resource Institute

Jimi Rambo Arranchado

University of Canterbury (New Zealand)

Kamal Tasiu Abdullahi

Istanbul University

**Kim Tung Dao** 

**Erasmus University Rotterdam** 

**Kosal Nith** 

Young Scholars Initiative

Lychoeng Na

Cambodia Development Resource Institute

**Naron Veung** 

Cambodia Development Resource Institute

**Phanith Chou** 

Royal University of Phnom Penh

**Phoury Bun** 

Cambodia Development Resource Institute

Rahmanda Muhammad Thaariq

University of Padua

Sai Chikoti

Azim Premji University

Sakhi Roy

Amity University, Kolkata

Sangchana Jak

Royal University of Phnom Penh

Sathya Chea

Cambodia Development Resource Institute

**Sattwick Dey Biswas** 

Young Scholars Initiative

Sereyroth Phang

Oxfam Cambodia

SeYeon Kim

Seoul National University

**Shrey Goyal** 

Gokhale Institute of Politics and Economics,

United Nations ESCAP

Simon Welfonder

Lao Social Research - Ancient student or University Grenoble Alpes - France

Sinoun Hin

Ministry of Post and Communication

**Sivly Houy** 

Cambodia Development Resource Institute

**Sokhethit Ly** 

Cambodia Development Resource Institute

Sokhimmarya Chea

Royal University of Law and Economics

Sovannroeun Samreth

Saitama University

**Sreymeng Sros** 

Royal University of Law and Economics

Yuki Kanayama

Cambodia Development Resource Institute